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May 31, 2018

Detective Daniel Newman
Savannah Chatham Metro Police Department
201 Habersham Street
Savannah, GA 31401

SERI Case No. 10675.18
Agency Case No. 180327091
Suspect: Hosea Scott

ANALYTICAL REPORT

On May 1st 2018, two items of evidence were received at the Serological Research Institute (SERI) via Federal Express (7807 5226 9560) from Detective Daniel Newman of the Savannah Chatham Metro Police Department. DNA analysis using the Polymerase Chain Reaction (PCR) method and comparison were requested.

ITEM 1 REFERENCE SAMPLE FROM HOSEA SCOTT

This item consisted of two intact swabs. A portion of one of the swabs was sampled (item 1-1), extracted for DNA, and analyzed by PCR. The results are tabulated below.

ITEM 2 SWABS – PISTOL & MAGAZINE

This item consisted of two intact swabs with black staining. The entire swab material for both swabs was sampled and combined (item 2), extracted for DNA, and analyzed by PCR. The results are tabulated below.

TABLE OF RESULTS

Item No.	1-1	2
Description	Hosea Scott	Pistol & Magazine Swabs
D3S1358	16,18	16,18[15]
vWA	15,17	15,17
D16S539	9,11	9,11
CSF1PO	10,12	10,12
TPOX	9	9
Y-indel	2	2
AMEL	X,Y	X,Y
D8S1179	11,14	11,14
D21S11	29	29
D18S51	15,19	15,19[18]
DYS391	10	10
D2S441	11,13	11,13[10]
D19S433	12,13	12,13
TH01	8	8
FGA	18.2,21	18.2,21
D22S1045	17,18	17,18[15]
D5S818	8,13	8,13
D13S317	12,13	12,13
D7S820	8,11	8,11
SE33	27.2,28	27.2,28
D10S1248	11,13	11,13[15]
D1S1656	14	14
D12S391	15,20	15,20
D2S1338	20	20

Key: X,Y = Male DNA.
[ ] = Below Stochastic.
All control samples typed as expected.

EXPLANATIONS

It is possible to obtain a profile from DNA deposited by touching an item. An individual may, at any time, contain biological material on his or her hands. This can originate from saliva, perspiration; trace amounts of blood, tears, etc. These DNA-containing fluids can be potentially transferred to an object (i.e. gun grip, steering wheel, tools, clothing) when handling or touching the object. Items can be swabbed, cut, or scraped to obtain the biological material left behind. The DNA can be extracted, and the amount obtained is proportional to the number of DNA-containing cells present.

EXPLANATIONS (continued)

Deoxyribonucleic acid or DNA is found in nucleated cells, e.g., white blood cells, salivary, vaginal and tissue epithelial cells and spermatozoa. The DNA can be extracted and the amount obtained is proportional to the number of cells present.

Human DNA consists of a number of genetic marker or typing systems. The genetic marker systems typed in this laboratory are independent of each other and therefore can all be used to differentiate one sample from another. Thus, if two samples originate from the same source, they will exhibit the same characteristics. Similarly, if two samples exhibit different types, they must have originated from two sources. DNA from different sources may also exhibit the same genetic markers due to the limited number of marker types possible; therefore, a statistical frequency of occurrence of any combination of types is often provided to indicate the approximate number of individuals in a relevant group who may have those same genetic marker types.

The typing system utilized by this laboratory relies on identifying small specific sections of DNA wherein there are recognizable differences between people. There may be an elimination of a person using these systems, and if sufficient systems are utilized identification to the exclusion of all others may be possible. The advantage of this method is that it requires substantially less DNA than earlier methods, as the recovered DNA can be amplified (increased in amount) in order to obtain successful typing. The amplification uses the Polymerase Chain Reaction (PCR) method.

Short Tandem Repeat (STR) markers are polymorphic DNA loci that contain a repeated nucleotide sequence. The STR repeat unit can be from two to seven nucleotides in length. STR loci can be amplified using the Polymerase Chain Reaction (PCR) process and the PCR products are then analyzed by electrophoresis to separate the alleles according to size. These markers are subsequently detected using fluorescent dye labeling. The following are the Globalfiler™ STR markers: D3S1358, vWA, D16S539, CSF1PO, TPOX, D8S1179, D21S11, D18S51, D2S441, D19S433, THO1, FGA, D22S1045, D5S818, D13S317, D7S820, SE33, D10S1248, D1S1656, D12S391, D2S1338. Also detected by this platform are Amelogenin and Y-indel (gender markers) and DYS391 (Y chromosome STR). Amelogenin, Y-indel and DYS391 are not included in any statistical calculations.

A maximum of two alleles per marker are expressed in any one individual; therefore, the detection of more than two alleles in any genetic marker indicates a mixture of DNA from more than one individual. Due to the presence of weak typing results at some loci, it is possible that minor components of the mixture have dropped out in the larger loci.

CONCLUSION

DNA recovered from the pistol & magazine swabs (item 2) resulted in a mixture of at least two contributors with a major male contributor. Hosea Scott (item 1-1) is included as the major contributor to the mixture. The chance that a randomly selected, unrelated individual would have the same DNA profile as the major contributor to the mixture is approximately 1 in 1.8 decillion. Due to weak results, the minor portion of the mixture is not suitable for interpretation.

EVIDENCE DISPOSITION

The remaining unconsumed evidence items will be returned. Any unconsumed extracts will be retained at SERI.

SEROLOGICAL RESEARCH INSTITUTE

Phillip Hopper
Forensic Serologist II

SERI
REPORT REVIEWED
DATE MAY 31